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PRE-APPEAL BRIEF REQUEST FOR REVIEW

Docket Number (Optional)

00802-22708

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on April 26, 2007

Signature

Typed or printed name

Tina Murphy

Application Number

10/814,660

Filed

3/30/2004

First Named Inventor

SUNG, CHIEN-MIN

Art Unit

1617

Examiner

Gina C. Yu

Applicant requests review of the final rejection in the above-identified application. No amendments are being filed with this request.

This request is being filed with a notice of appeal.

The review is requested for the reason(s) stated on the attached sheet(s).

Note: No more than five (5) pages may be provided.

I am the

☐

applicant/inventor.

☐

assignee of record of the entire interest.

See 37 CFR 3.71. Statement under 37 CFR 3.73(b) is enclosed.
(Form PTO/SB/96)

☒

attorney or agent of record.

Registration number 44,989☐

attorney or agent acting under 37 CFR 1.34.

Registration number if acting under 37 CFR 1.34 _____

Signature

David W. Osborne

Typed or printed name

801-566-6633

Telephone number

April 26, 2007

Date

NOTE: Signatures of all the inventors or assignees of record of the entire interest or their representative(s) are required. Submit multiple forms if more than one signature is required, see below*.

☐

*Total of _____ forms are submitted.

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Patent App. SN: 11/249,761
Attorney Docket No. 00802-22708

REASONS FOR PRE-APPEAL BRIEF REVIEW

In the Final Office Action mailed December 27, 2006 (hereinafter, the "Final Office Action"), Claims 1-27 were pending for consideration. Claims 2, 4, 5, 6, 25, and 26 were rejected under 35 U.S.C. § 112, second paragraph. Claims 1-13 and 15-27 were rejected under 35 U.S.C. § 103(a) as allegedly unpatentable over U.S. Patent No. 4,482,538 (hereinafter "Davies"), in view of the article, *Ultradispersivity of Diamond at the Nanoscale* (hereinafter "Raty"). Additionally, Claim 14 was rejected as allegedly obvious over Davies and Raty further in view of *Cosmetics Additives: An Industrial Guide* (hereinafter "Flick").

In the response submitted by the Applicant under 37 C.F.R. § 1.116 to the Final Office Action, the Applicant submitted amendments to the claims in an attempt to remedy the 35 U.S.C. § 112, second paragraph rejections. In an Advisory Action, the Examiner rejected all proposed amendments. As such rejections were not directed to the independent claims, the proposed amendments, and choice by the Examiner to refuse such amendments, regardless of such amendments placing the claims in better state for allowance, are not discussed herein.

The following discussion is focused on the lack of motivation to combine the references. This does not preclude Applicant from arguing additional deficiencies in the cited references during any later Appeal proceedings or prosecution, such as lack of teaching of each and every element.

The Claimed Invention

The present invention, as recited in independent Claims 1 and 10, provides for a remedial healthcare and a cosmetic nanodiamond composition, respectively. The compositions have a

biologically acceptable carrier in the case of the remedial healthcare composition or a cosmetically acceptable carrier for the cosmetic composition, and a plurality of nanodiamond particles. The nanodiamond particles are dispersed in the carrier with a dispersant. Additionally, the nanodiamond particles have an average size of from about 0.5 nm to about 50 nm (0.0005 – 0.05 microns). Independent Claim 19 is drawn towards a method of binding biological molecules, which requires formulating a nanodiamond composition having a plurality of nanodiamond particles dispersed in a biologically acceptable carrier. Additionally, the method includes contacting a biological material with the nanodiamond composition so that at least a portion of the biological material becomes bonded to the nanodiamond composition.

Davies and Raty

Davies teaches the inclusion of diamond particles, typically of a size of 6 to 12 microns, in nail varnishes and polishes. Davies further teaches that one of the main problems with incorporating diamonds in these compositions is the difficulty of keeping the particles in suspension. Both parties agree that Davies fails to teach nanodiamond particles.

The Raty reference is an article that is primarily directed to discussing unique features of interstellar nanodiamond particles, and some of their similarities with synthetically-made nanodiamond particles.

Motivation to Combine

The prosecution history relevant to motivation to combine offers insight into the initial reasons for combining Davies and Raty, and as such, select portions are reproduced herein. Specifically, the initial motivation to combine hinged on a mis-interpretation of Raty by the

Examiner, as illustrated through the correspondence between Applicant and Examiner.

In the Office Action dated July 3, 2006, the Examiner cites as motivation to combine that

“1) Davies teaches the use of diamond particles in cosmetic nail polish and addresses the problem of suspending the particles in the liquid base; and 2) Raty teaches that nanodiamonds have ultradispersity. The skilled artisan would have had a reasonable expectation of successfully producing a nail polish comprising nanodiamond particles which is stably dispersed in the composition.” Office Action dated July 3, 2006, pg. 5, para. 3.

In response, the Applicant respectfully pointed out the “dispersity” as used in Raty is directed to a very narrow size distribution. Dispersity and ultradispersity, as used by Raty, is not at all indicative of the nanodiamonds properties in solution, but rather refers to particle size and shape.

The Examiner responded with a Final Office Action, maintaining the rejections based on the combination of Davies and Raty. The Examiner recognized, in the body of the Final Office Action, that the nanodiamonds of Raty are ultradispersed due to their very narrow size distribution. However, the Examiner maintained the above-recited reason for motivation. In a later section, the Examiner further argued, “a skilled artisan would have expected that, due to the ultradispersibility of the Raty’s nanodiamond particles, the resulting composition would have enhanced dispersibility of the actives.” Final Office Action dated December, 27, 2006, pg 7, para. 1.

Once again, the Applicant responded in a timely manner and attempted to point out the lack of motivation. In an Advisory Action dated March 13, 2007, the Examiner agreed with the Applicant’s interpretation of Raty’s use of the term dispersity meaning size distribution of the nanodiamonds. Further, the Examiner stated that Davies teaches the use of micro-scale diamonds in a cosmetic composition, and Raty teaches that nanodiamond particles are known. Advisory Action dated March 13, 2007, pg. 1, para. 2.

As the Examiner admits that Raty does not teach or infer desirable properties of nanodiamonds in solution, it seems that the motivation the Examiner is relying on, at least in the Advisory Action, is that Raty teaches the mere existence of nanodiamond particles. In any case, both reasons for motivation explicitly stated or inferred by the Examiner do not sustain a *prima facie* case of obviousness, as one is based on a mis-interpretation, and the other establishes the existence of nanodiamonds without providing motivation to combine. Obviousness is only established by combining or modifying references to produce the claimed invention where there is some teaching, suggestion, or motivation to do so. See *In re Kahn*, 441 F.3d 977, 986, 78 USPQ2d 1329, 1335 (Fed. Cir. 2006), and M.P.E.P. 2143.01(I). Further, the mere fact that the references can be combined does not render the resultant combination obvious unless the prior art also suggests the desirability of the combination. See *In re Mills*, 916 F.2d 680, 16 USPQ2d 1430 (Fed. Cir. 1990), and M.P.E.P. 2143.01(III). To go even further, case law and the M.P.E.P. make it clear that even if the claimed invention is within the capabilities of one of ordinary skill in the art, a *prima facie* case of obviousness is not established by this alone. See *Ex parte Levengood*, 28 USPQ2d 1300 (Bd. Pat. App. & Inter. 1993), and M.P.E.P. 2143.01(IV).

In the present case, the Examiner has presented one reference, Davies, that teaches micron-sized diamond particles in nail polish, and another reference, Raty, that teaches that nanodiamonds exist. There is no teaching, suggestion, or motivation in either reference to modify the nail polish of Davies to include nanodiamonds. Furthermore, the mere fact that the references can be combined, is explicitly not to be taken as motivation to do so and does not support a case of *prima facie* obviousness. Neither reference appreciates the problems addressed by the present invention:

specifically, dispersing nanosized diamonds in a carrier with a dispersant. Additionally, although *arguendo* incorporating nanodiamonds into a nail polish similar to Davies may be within the capabilities of one of ordinary skill in the art, once again, a *prima facie* case of obviousness is not established by this alone. Neither the Examiner nor the references themselves offer any motivation to combine the references, and therefore a *prima facie* case of obviousness is not met.

CONCLUSION

In view of the foregoing, Applicant believes that the present rejections are unsustainable and should be withdrawn. Therefore, Applicant respectfully requests that the prosecution be reopened and/or the claims be allowed. If any impediment to the allowance of these claims remains after consideration of the above remarks, and such impediment could be resolved during a telephone interview, the Examiner is invited to telephone Mr. David Osborne at (801) 566-6633, to address such issues as expeditiously as possible.

Dated this 26th day of April, 2007.

Respectfully submitted,

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